

WHAT IS CLAIMED IS:

1. A laser configuration having resonator-internal frequency conversion, comprising a laser resonator having a first arm formed by a first reflector, an active medium and an output device, and a second arm formed by a second reflector, a frequency converter and the output device so that a frequency-converted output beam is emitted by the output device; the laser resonator having a length equal to the sum of the lengths of the first and second arms; the output device comprising an optical prism into which the frequency-converted output beam is input and can be output on an output surface in the direction of the output axis; and the output axis and an optical axis of the first arm being parallel to each other, wherein the optical prism is designed so that the frequency-converted output beam can be output on the output surface after internal reflection on at least one total reflection surface, such that the output axis and the optical axis of the first arm correspond.

2. A laser configuration according to claim 1, wherein the prism has exactly one total reflection surface, whereby for an angle α between the entry surface and the total reflection surface of the prism the relationship defined by the following equation applies:

$$\alpha = i'_0 + \arcsin(\sin i/n)$$

where i corresponds to the angle of incidence of the beams on the entry surface, i'_0 corresponds to the entry angle on the total reflection surface in the prism, and n corresponds to the refractive index of the prism material.

3. A laser configuration according to claim 1, wherein an entry surface and an emergence surface of the optical prism enclose the Brewster angle (β) relative to the beam axis.

4. A laser configuration according to claim 1, wherein the prism has two total reflection surfaces, and for an angle α_1 between the entry surface and the first total reflection surface and for an angle α_2 between the emergence surface and the second total reflection surface the relationships defined by the following equations apply:

$$\alpha_1 = i'_0 + \arctan 1/n$$

$$\alpha_2 = i''_0 - \arctan 1/n$$

where i'_0 is the entry angle on the first total reflection surface into the prism, i''_0 is the entry angle on the second total reflection surface in the prism, and n is the refractive index of the prism material.

5. A laser configuration according to claim 1, wherein the frequency converter generates a second harmonic.

6. A laser configuration according to claim 1, wherein the frequency converter is provided with a combined delay chip for generating a third or fourth harmonic.